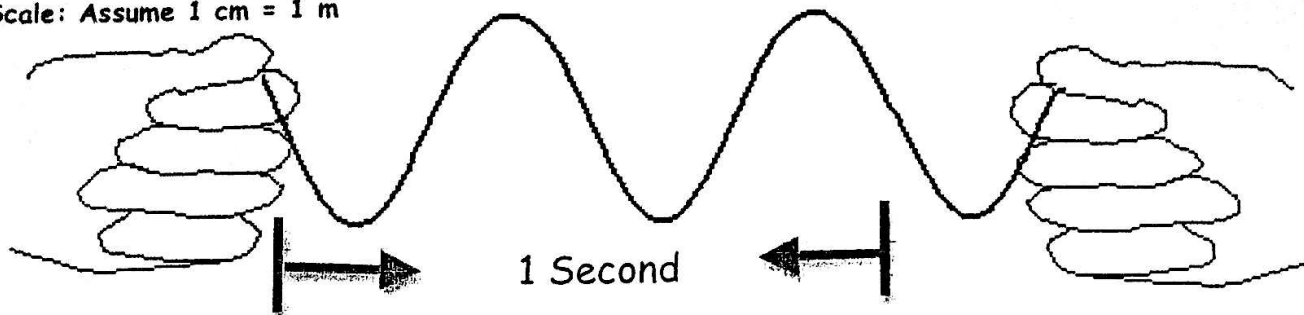


NAME: _____

WAVE LAB

Scale: Assume 1 cm = 1 m



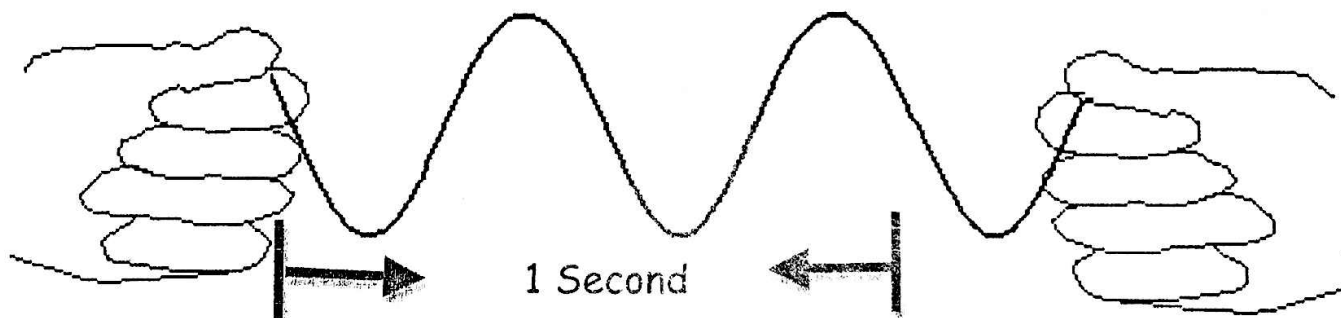
1. The sketch above illustrates a snapshot in time of a wave sent along a cord. The wave illustrated was generated by the hand on the left and has just reached the hand on the right.

a. Measure directly on the diagram to determine:

wavelength ____ m amplitude ____ m period ____ s frequency ____ Hz (cycles/sec) speed ____ m/s

b. Directly on the sketch above label one wavelength, one crest, one trough, and one amplitude.

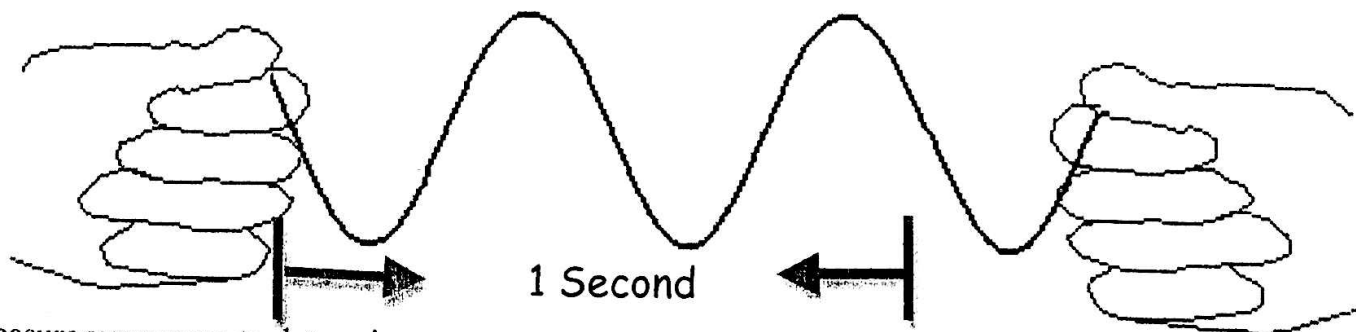
2. Sketch a wave over the diagram below that has a wavelength of half that of the drawn wave.



Measure your wave to determine:

wavelength ____ m amplitude ____ m period ____ s frequency ____ Hz (cycles/sec) speed ____ m/s

3. Sketch a wave over the diagram below that has an amplitude of half that of the drawn wave.



Measure your wave to determine:

wavelength ____ m amplitude ____ m period ____ s frequency ____ Hz (cycles/sec) speed ____ m/s

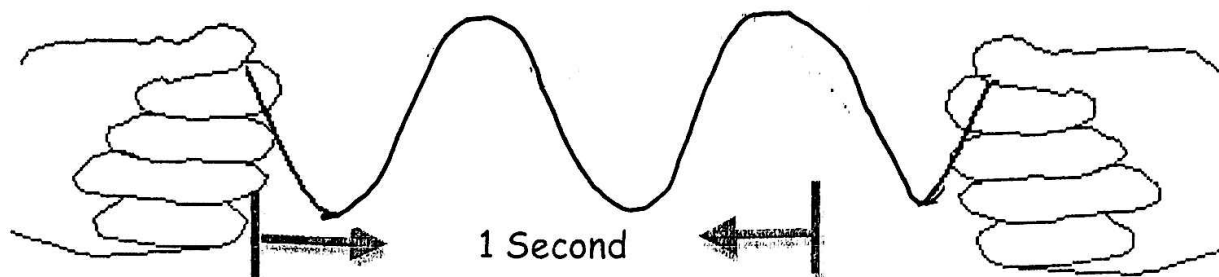
9. As amplitude doubles, (FOR I, II, & III: Circle one in each and fill in information)

- I. wavelength increases by _____, decreases by _____, or stays the same.
II. frequency increases by _____, decreases by _____, or stays the same.

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4. Sketch a wave over the diagram that has a frequency half that of the drawn wave.



Measure your wave to determine:

wavelength _____ m amplitude _____ m period _____ s frequency _____ Hz (cycles/sec) speed _____ m/s

Application: Compare the Drawings you just did, with the 1st (Original) Picture on the first page to answers Questions #'s 5-10

5. As wavelength decreases by half (Hint: Look at drawing in Question #2),

(FOR I, II, & III: Circle one in each and fill in information)

- I. amplitude increases by _____, decreases by _____, or stays the same.
II. frequency increases by _____, decreases by _____, or stays the same.
III. speed increases by _____, decreases by _____, or stays the same.

6. As amplitude decreases by half (Hint: Look at drawing in Question #3),

(FOR I, II, & III: Circle one in each and fill in information)

- I. wavelength increases by _____, decreases by _____, or stays the same.
II. frequency increases by _____, decreases by _____, or stays the same.
III. speed increases by _____, decreases by _____, or stays the same.

7. As frequency decreases by half, (Hint: Look at drawing in Question #4),

(FOR I, II, & III: Circle one in each and fill in information)

- I. amplitude increases by _____, decreases by _____, or stays the same.
II. wavelength increases by _____, decreases by _____, or stays the same.
III. speed increases by _____, decreases by _____, or stays the same.

8. As wavelength doubles, (FOR I, II, & III: Circle one in each and fill in information)

- I. amplitude increases by _____, decreases by _____, or stays the same.
II. frequency increases by _____, decreases by _____, or stays the same.
III. speed increases by _____, decreases by _____, or stays the same.

NAME: _____

9. As an

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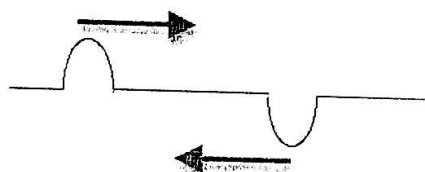
9. As amplitude doubles, (FOR I, II, & III: Circle one in each and fill in information)

- | | | |
|-----------------------------------|---------------------|--------------------|
| I. wavelength increases by _____, | decreases by _____, | or stays the same. |
| II. frequency increases by _____, | decreases by _____, | or stays the same. |
| III. speed increases by _____, | decreases by _____, | or stays the same. |

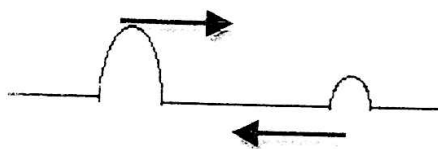
10. As frequency doubles, (FOR I, II, & III: Circle one in each and fill in information)

- | | | |
|------------------------------------|---------------------|--------------------|
| I. amplitude increases by _____, | decreases by _____, | or stays the same. |
| II. wavelength increases by _____, | decreases by _____, | or stays the same. |
| III. speed increases by _____, | decreases by _____, | or stays the same. |

11. In each of the following situations, two pulses are shown traveling toward each other. Make three sketches showing what will happen a) just prior to, b) during and c) immediately after intersection.



a.



a.

b.

b.

c.

c.